Note:

Do not touch the Marx generator and high voltage power supply while the power is on!

At the end of each test, use a screwdriver or other metal with an insulating handle to simultaneously contact the two copper posts on the 20KV power input terminal, and drain the remaining power in the capacitor to touch the Marx generator.

There is a certain degree of danger, and users need to have basic electronic knowledge.

About power supply:

The discharge of the Marx generator will produce relatively large electromagnetic interference. If it is powered by a switching power supply, it is easier to be damaged by interference. Therefore, it is necessary to use lithium battery packs, batteries, transformers and other power sources that are not afraid of electromagnetic interference to power the zvs high-voltage power supply. The equipment should be as far as possible from other household appliances, at least two or three meters away to avoid electromagnetic interference from arcs.

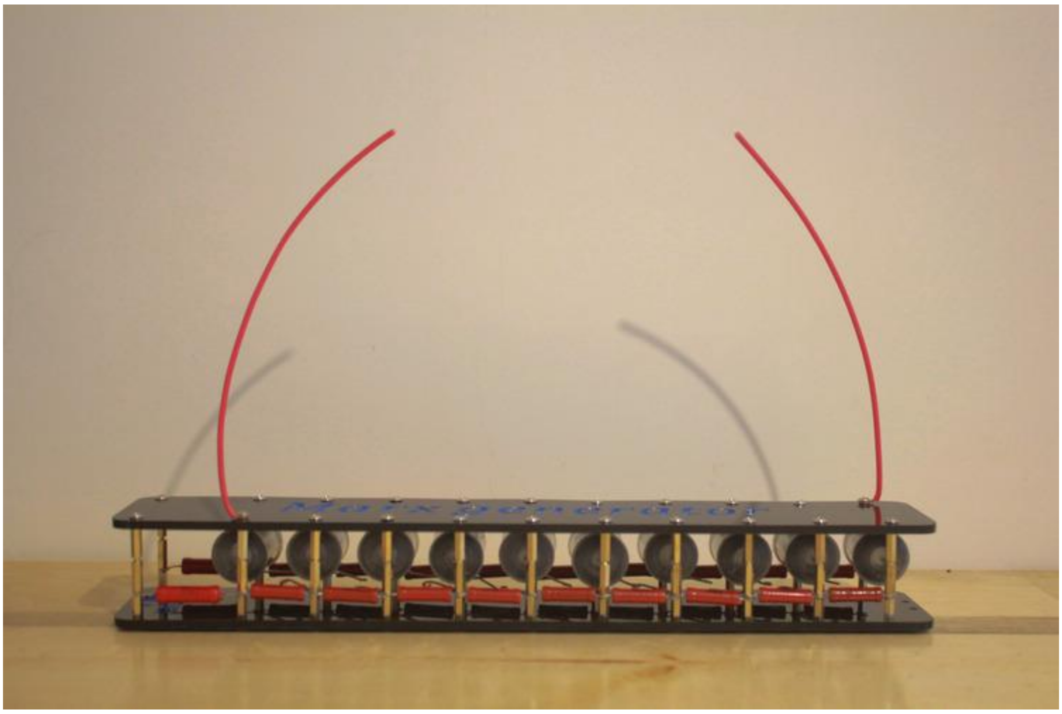
The Marx generator uses a 10-20KV high-voltage DC power supply and outputs a high voltage of hundreds of thousands to hundreds of thousands of volts. In scientific research, it can be used as a high-voltage pulse power supply for experiments, and it can also be used for electromagnetic teaching.

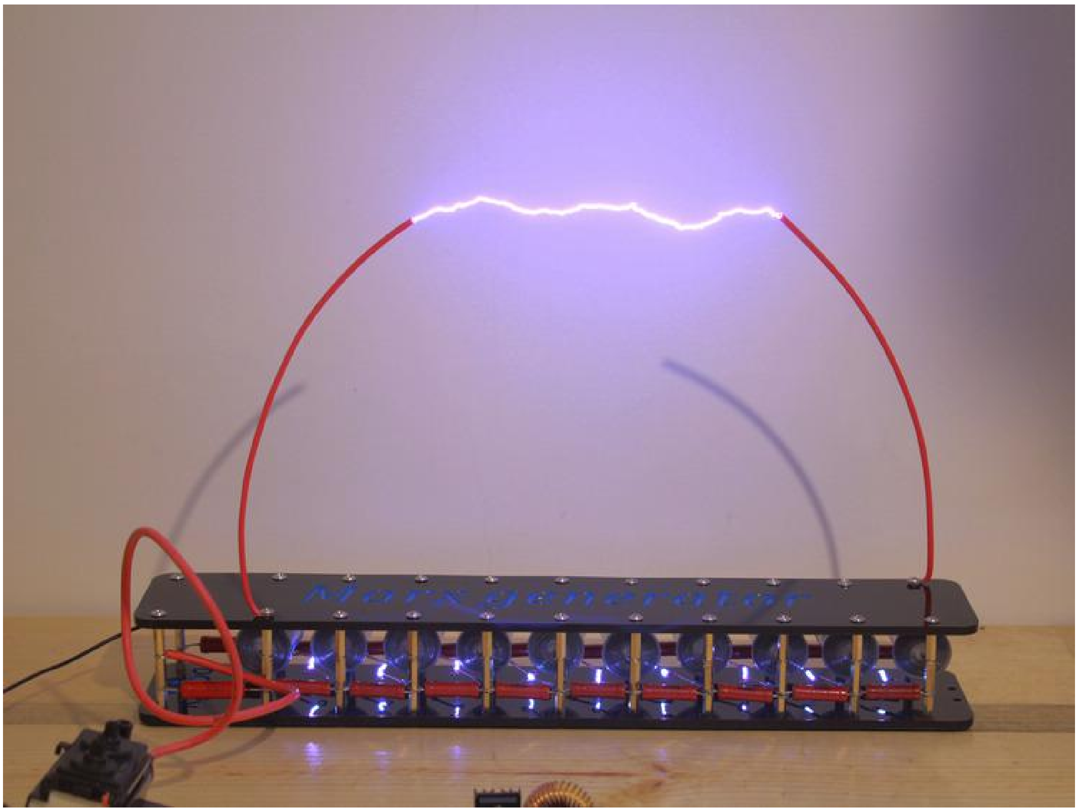
(Optional)

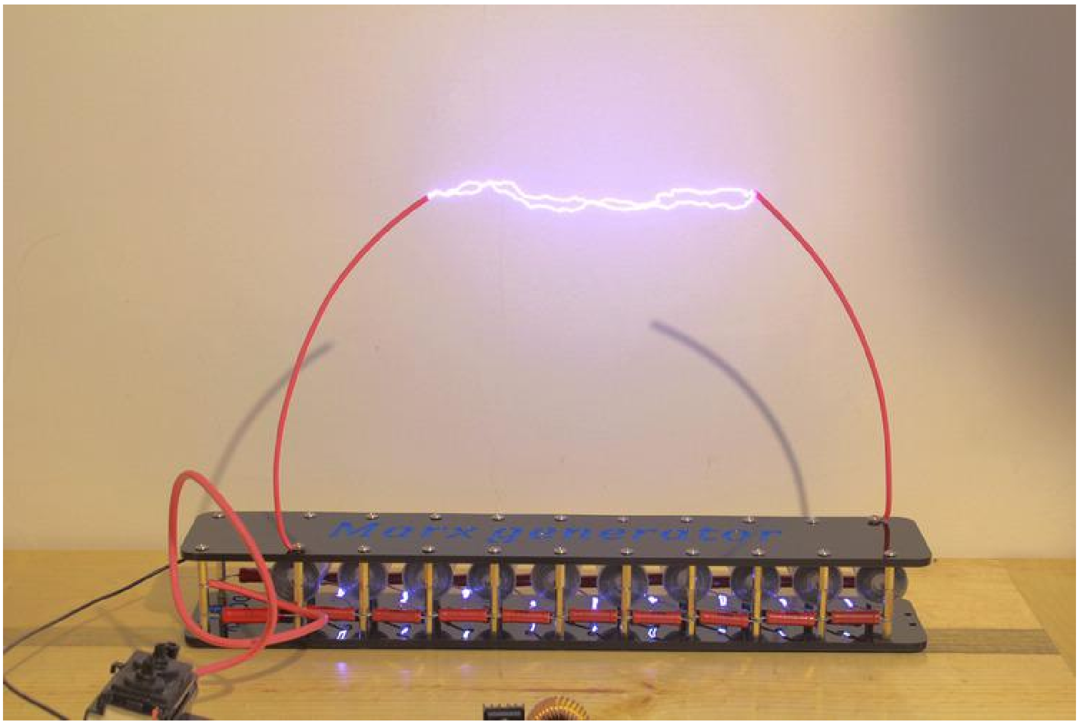
- ✓ Level 6 arc 8-10 cm, output voltage 100,000 volts
- ✓ Level 10 arc 15-20 cm, output voltage 200,000 volts
- ✓ Level 20 arc 25-30 cm, output voltage 300,000 volts

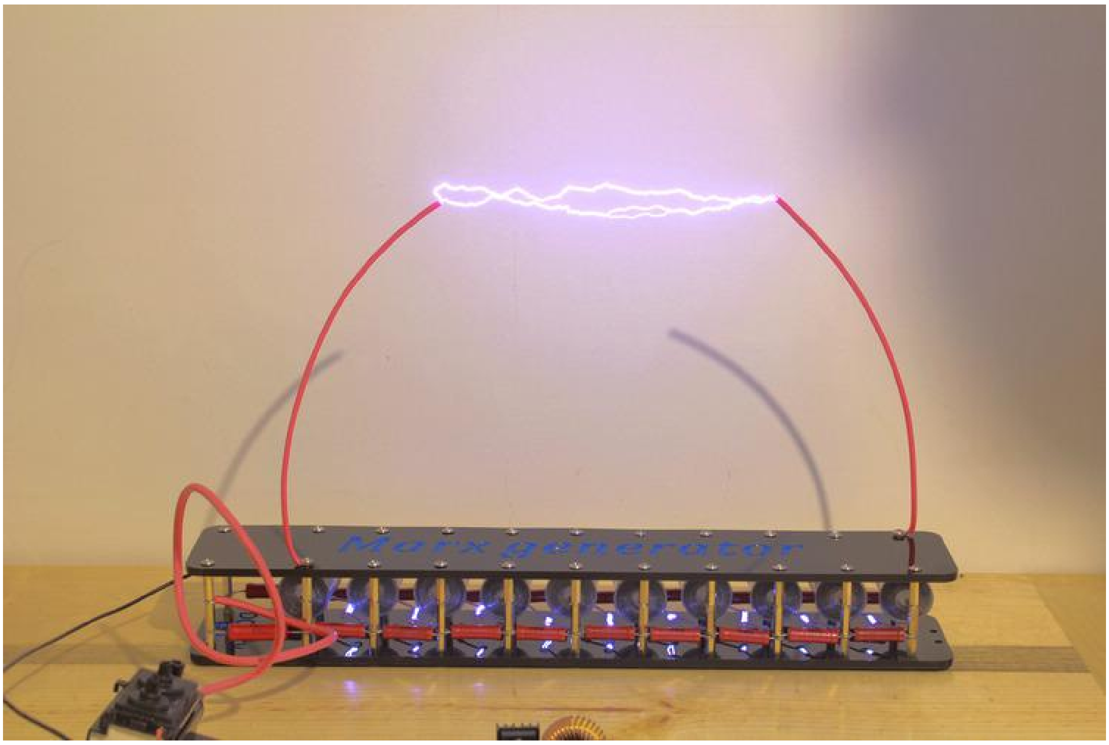
Please read the instructions on the page carefully before purchasing, you need to assemble the kit yourself.

10 level Marx generator effect:

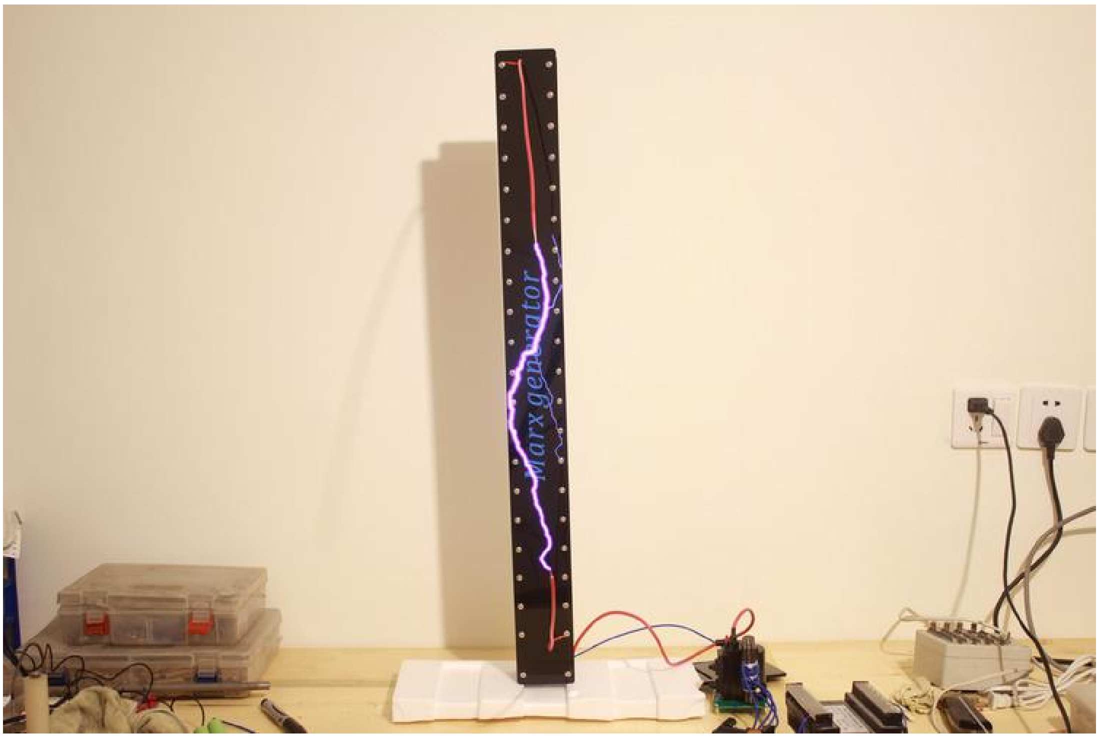


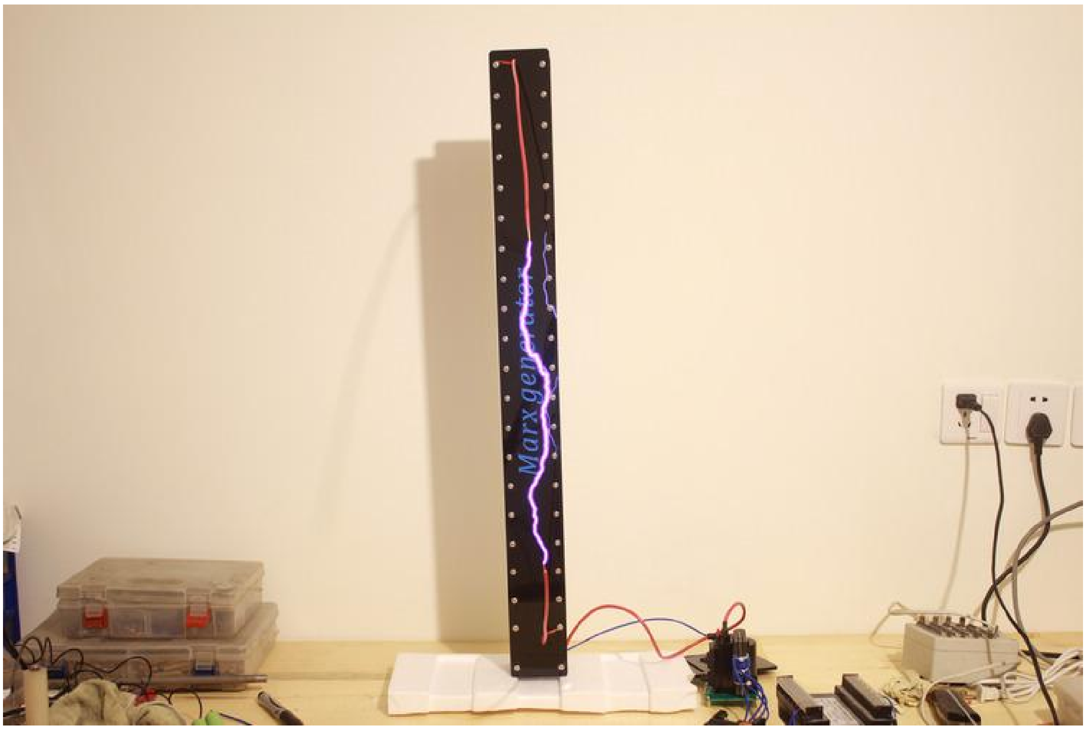

Marxgenerator

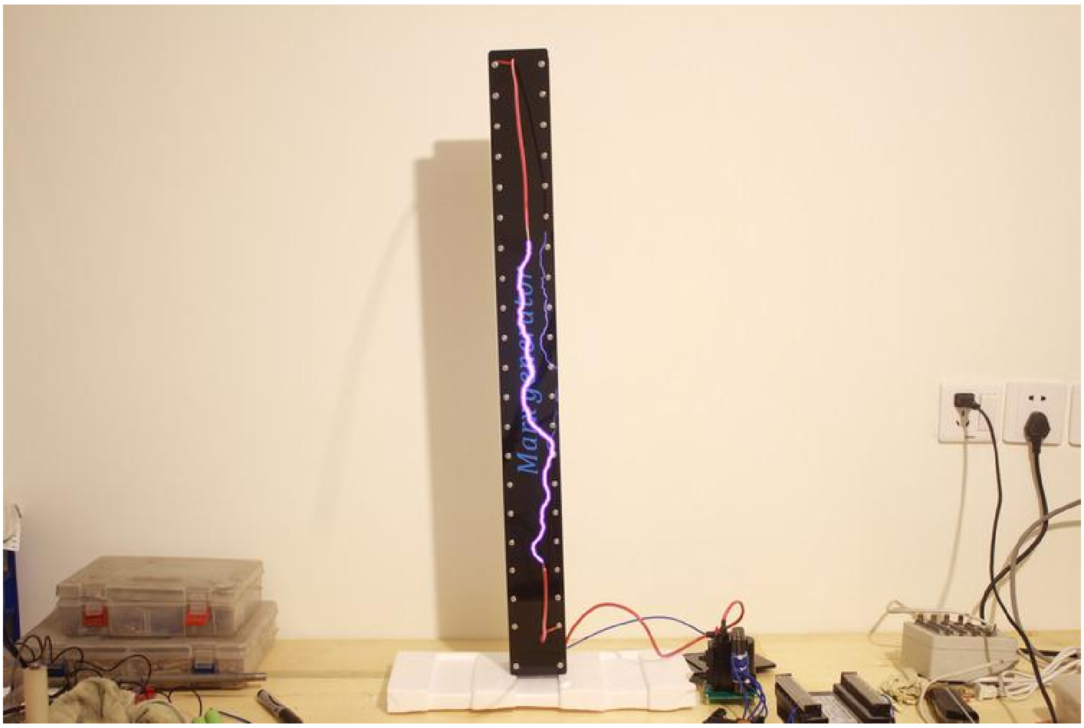

Marxgenerator



20-level Marx generator effect:

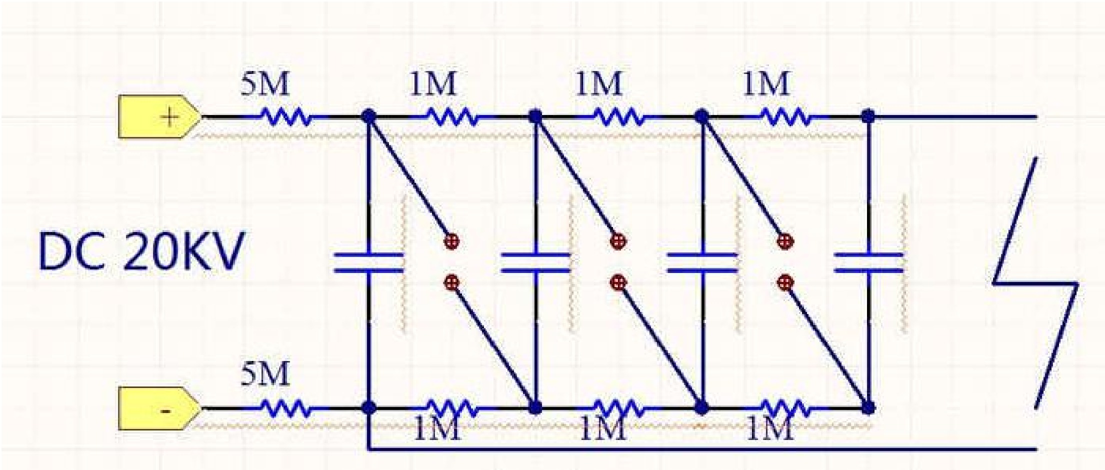



Marx generator

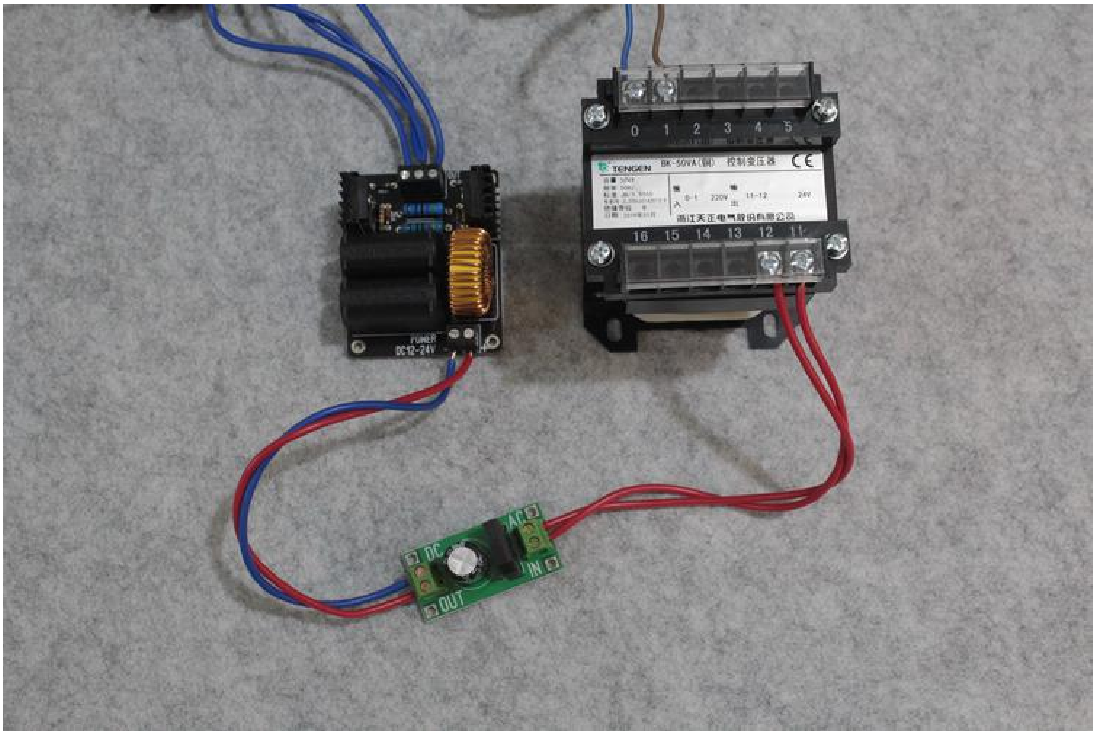


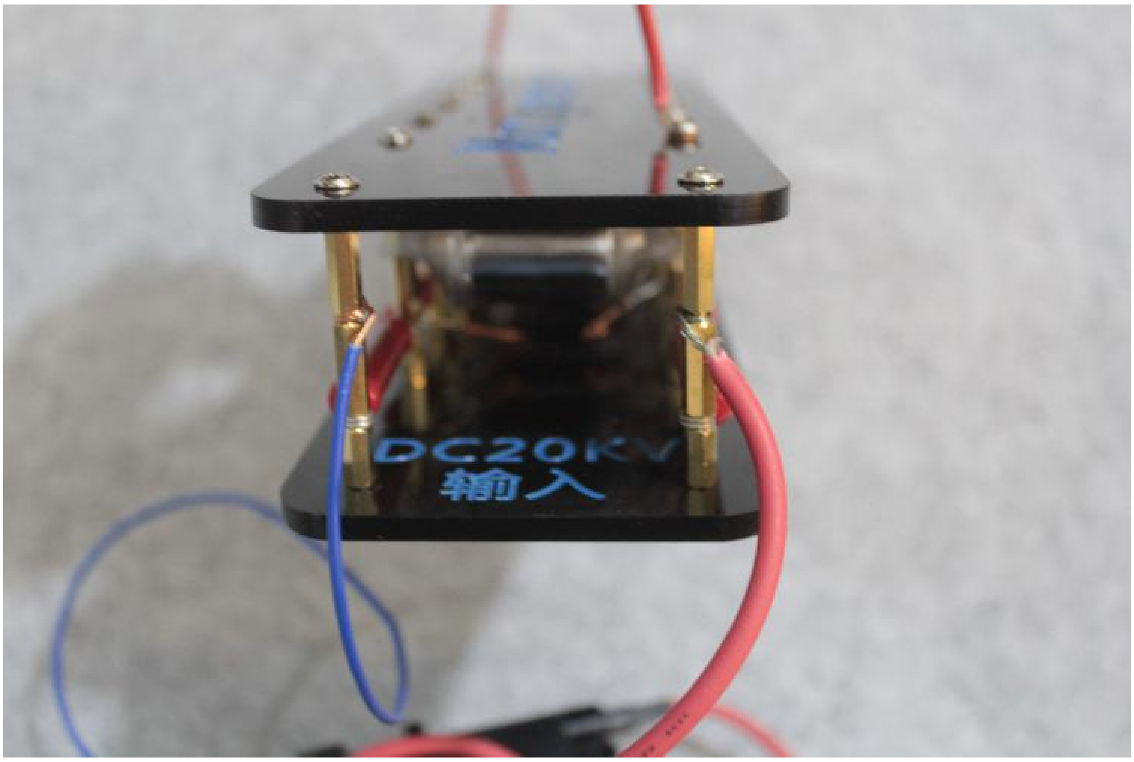
Schematic diagram of 10-level Marx generator circuit:

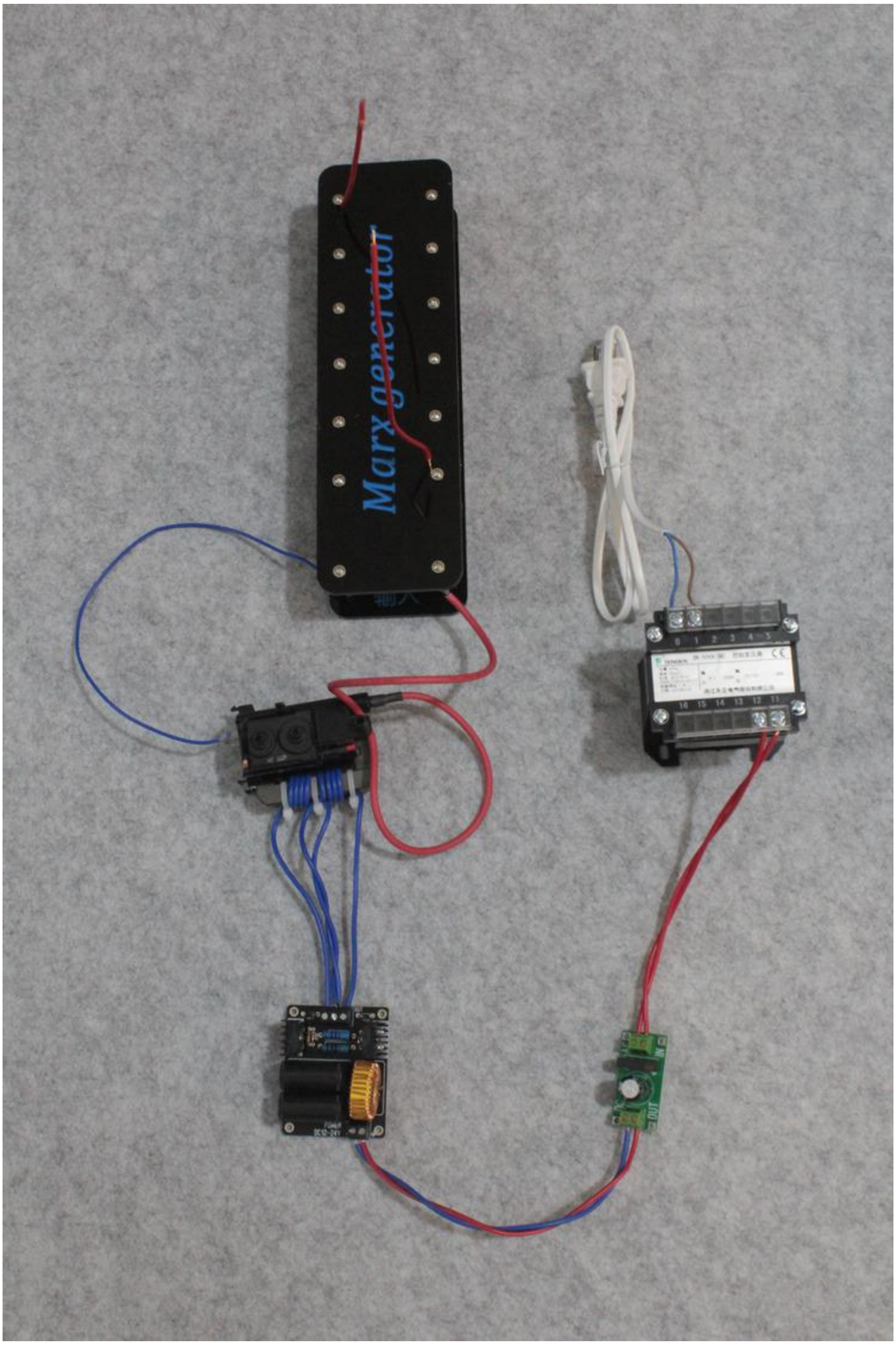
(Only 4 levels are drawn, now 10M resistor is used instead of 5M)



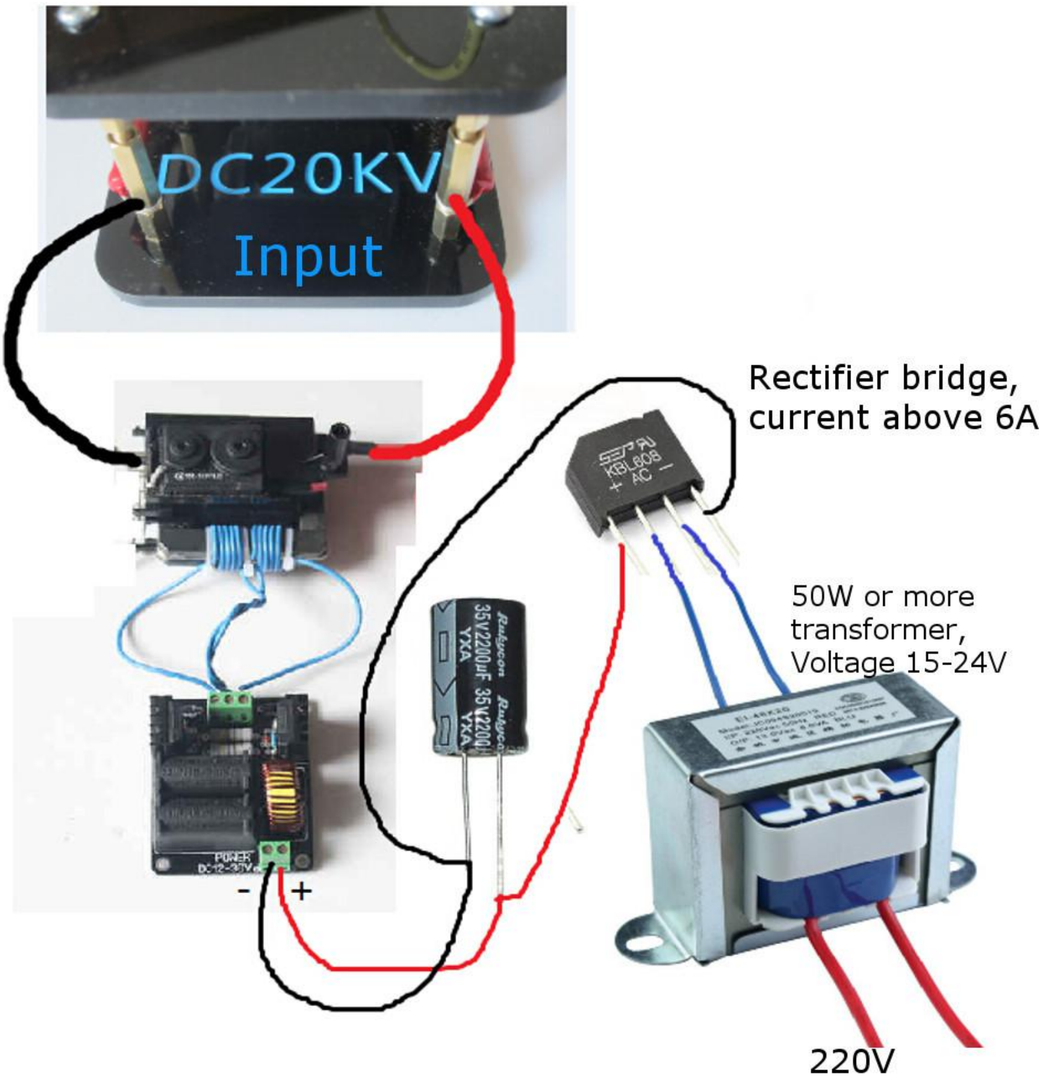
Wiring diagram, can use 24V50W transformer to supply power, after rectification and filtering, it becomes a DC drive ZVS high voltage power supply. You can also use lithium battery packs and batteries for power supply. Lithium battery recommends 22.2V for 6S battery pack.




DC20KV
输入



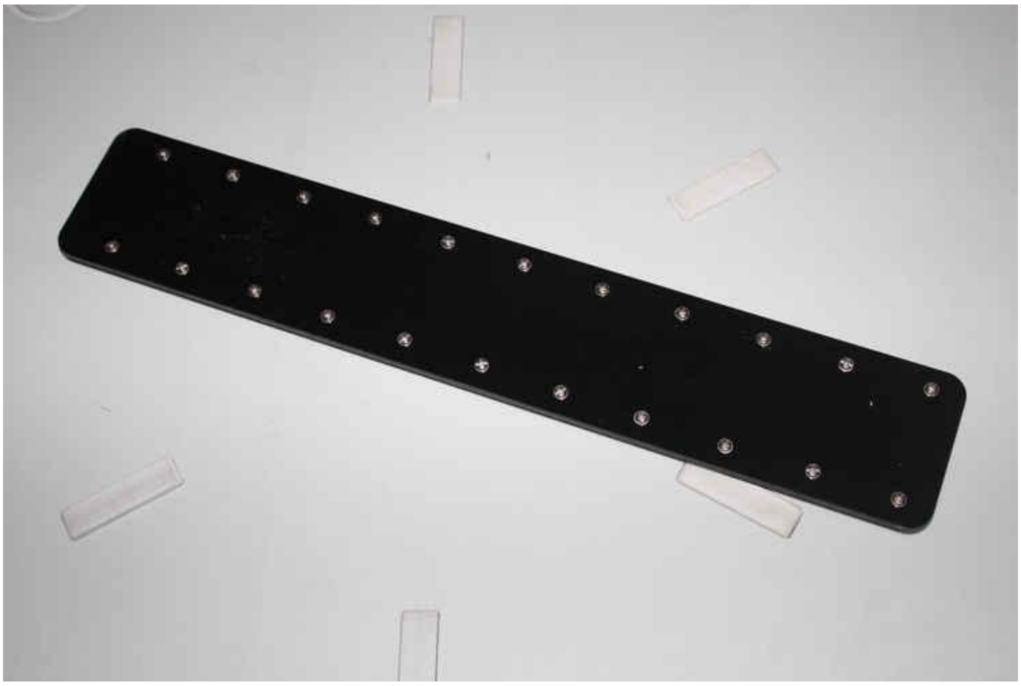
Or



Assembly drawing:

1. Tighten the 10mm double-hole copper column on the acrylic board with screws





2. Make a spark gap.

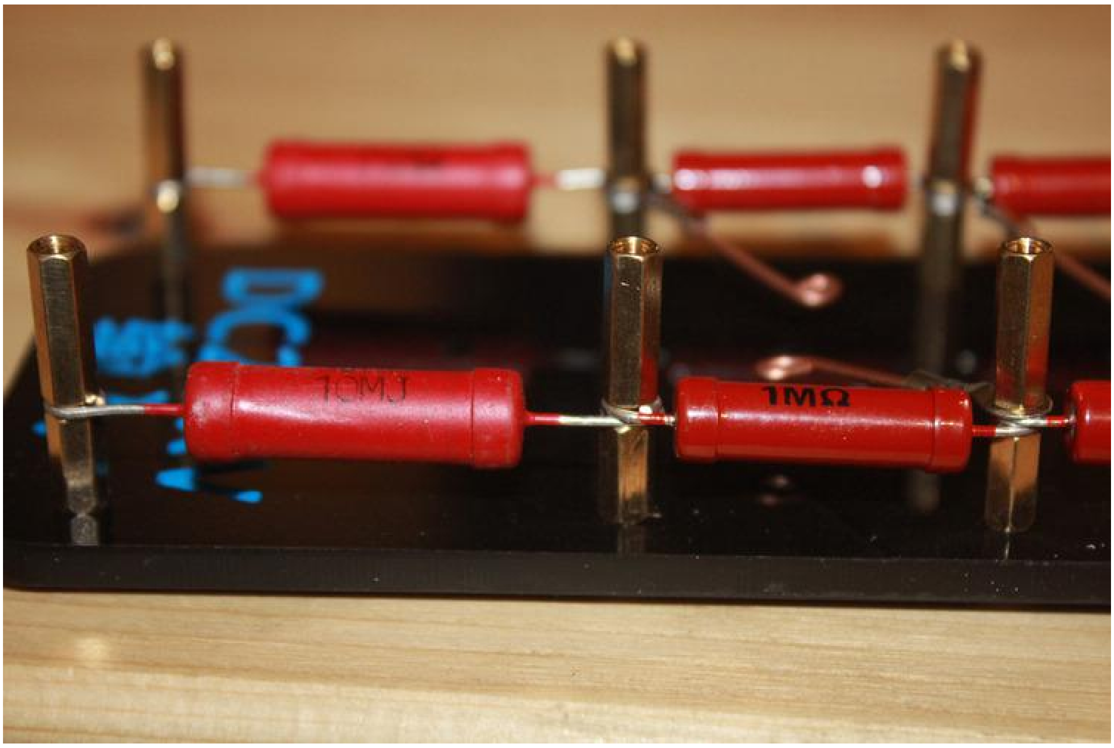
Strip the wires in the kit, cut 35mm copper wires, and solder them directly to the terminals with an electric soldering iron. Use needle-nose pliers to bend the pins at the end of the copper wire into a ring.



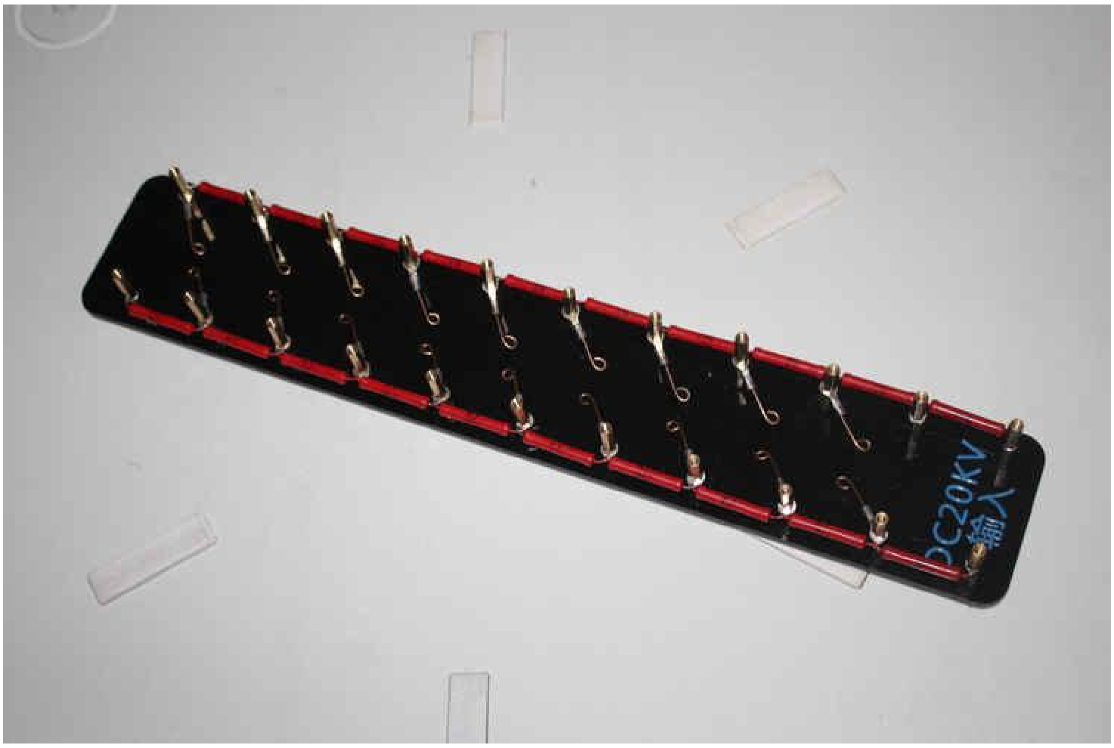
3. Use needle-nose pliers to bend both ends of the high-voltage resistor into a ring



4. Fix the ignition gap and high-voltage resistance on the 10mm double-hole copper column with a 15mm copper column. The first stage uses two high-power 10M ohm resistors.



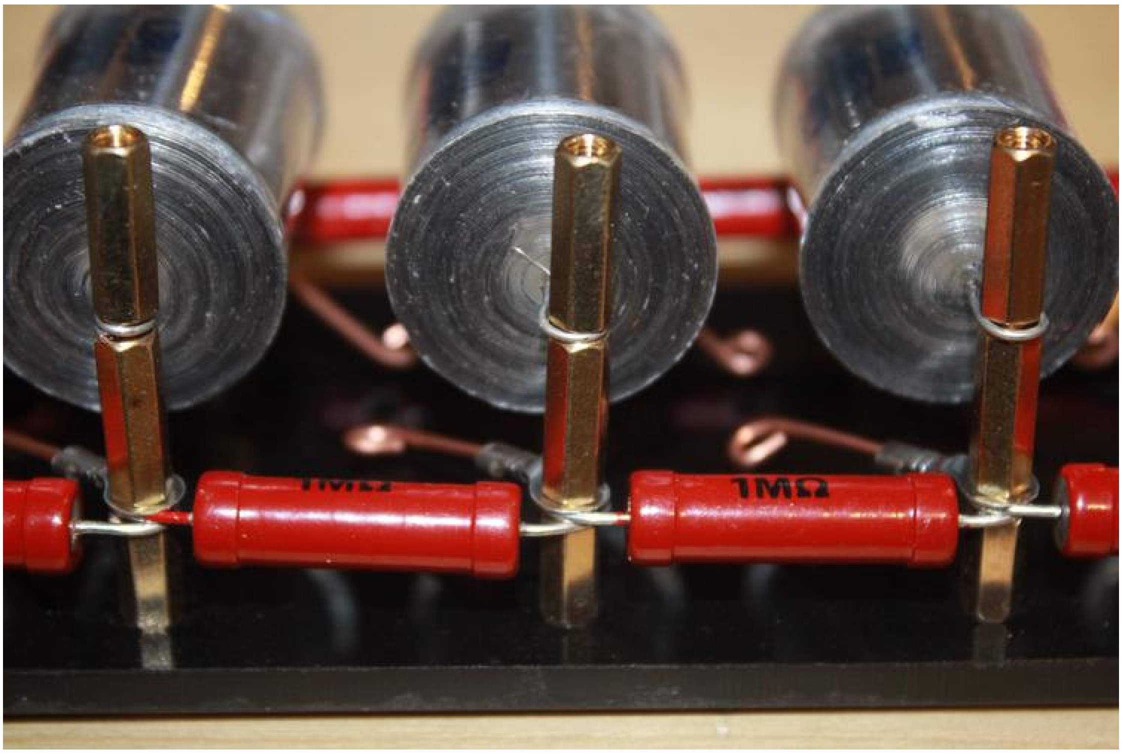
5. Adjust the spark gap. The gap at the first level can be about 15mm, and the gap at the last level is 5mm. The gaps at the middle levels gradually become smaller. If the input voltage is less than 20KV, the gap should be reduced accordingly.



6. Use needle-nose pliers to bend the pins of the high-voltage capacitor into a ring

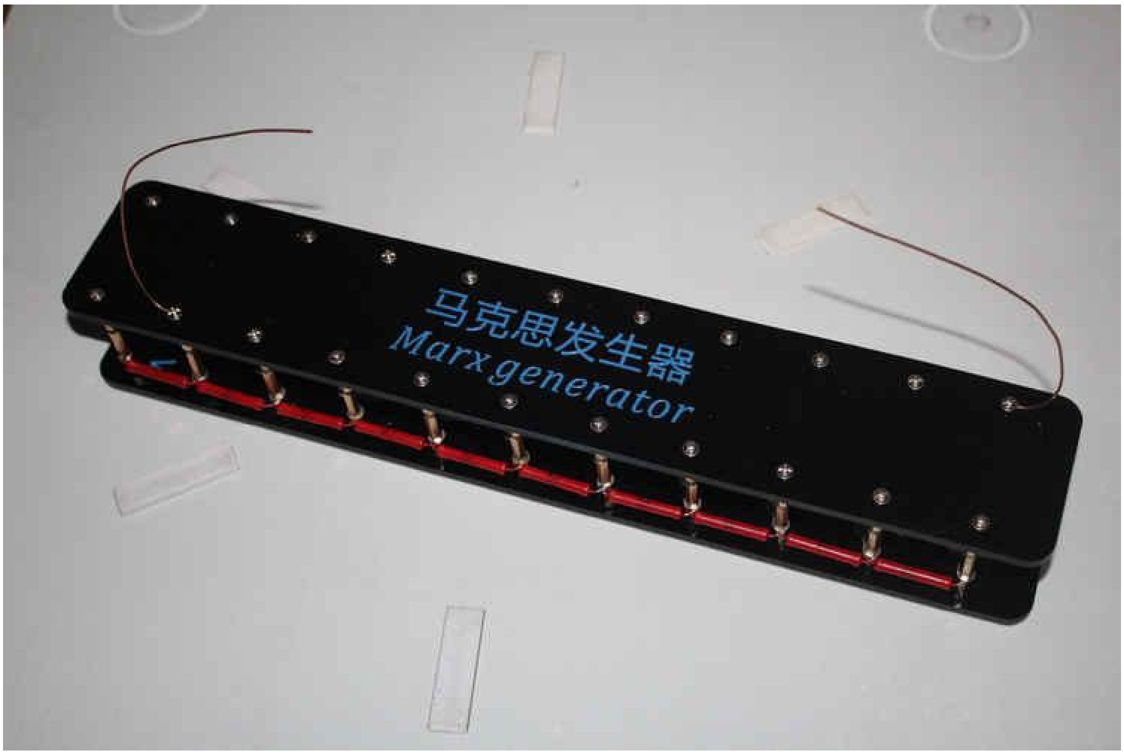


7. Use a 15mm copper column to fix the high-voltage capacitor on the lower copper column.

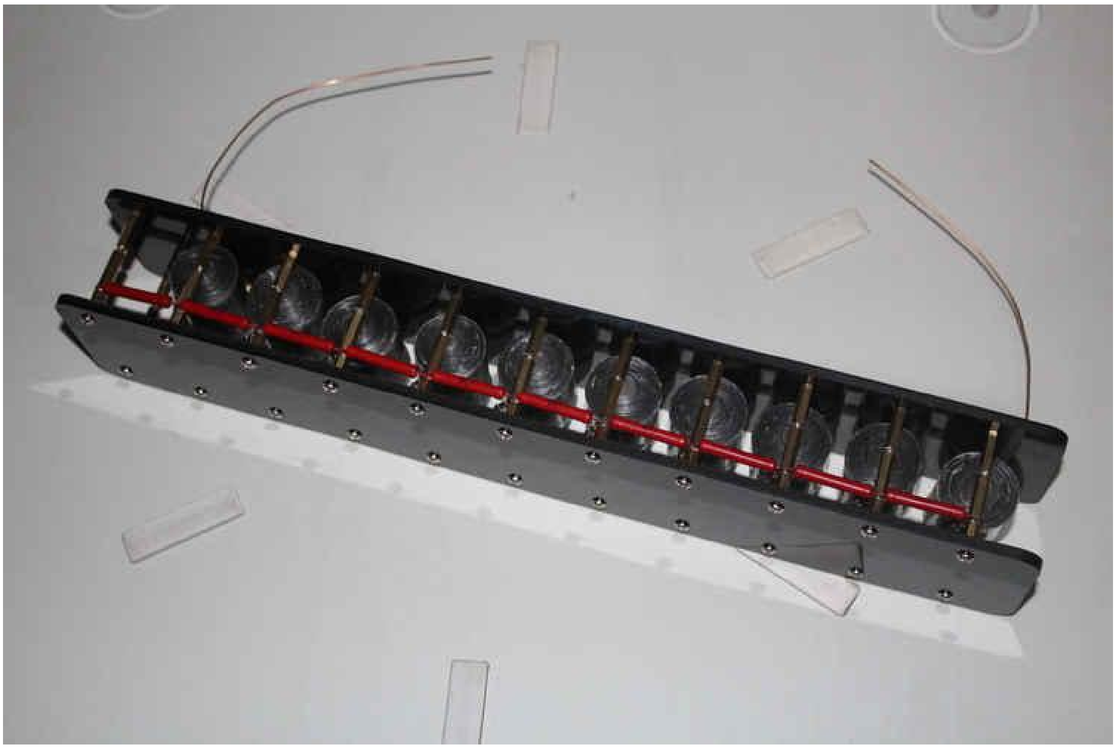




8. Fix the upper cover with screws. Install the discharge electrode



9. In order to be durable and anti-shock and anti-falling during transportation, hot melt adhesive can be used to reinforce the junction between the pins of the capacitor and the copper pillar.



[Note] It is strictly forbidden to touch the Marx generator and high-voltage power supply when the power is on!

After each test, use a screwdriver or other metal with an insulating handle to touch the two copper pillars at the input end of the 20KV power supply at the same time, and discharge the residual electricity in the capacitor before touching the Marx generator.